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Keep maths textbooks independent of examining boards

Maths teachers are feeling increasingly obliged to buy textbooks and other teaching resources endorsed by examining boards and written by examiners, fearing that their pupils would be disadvantaged if they did not, according to a statement by the Institute of Mathematics and its Applications (IMA).

The IMA warns that, although there are exceptions, there is a tendency for the books to be very exam-focused which encourages 'teaching to the test' - an accusation often levelled at maths teachers. And it points out that good examiners are not necessarily good textbook writers.

Chris Belsom, chair of the Schools and Further Education Committee at the IMA, said, "This is a serious issue. Teachers are finding they have little choice in the books and resources they use. Texts are very examination focused and are often dull and uninspiring. This is stifling their ability to teach innovatively and using a variety of approaches, which in turn is restricting the mathematical education which their pupils receive. And of course when exam specifications change, these textbooks become obsolete, forcing schools or colleges to spend more money staying up to date."

The Committee warns that endorsement is acting as a restraint rather than a kite-mark. To avoid any conflicts of interest, it recommends that regulators restrict the awarding bodies from gaining any commercial advantage from the sale of textbooks as a condition for accreditation.

The IMA's concern was echoed by the London Mathematical Society. Chris Budd, chair of the LMS Education Committee, commented, "I suspect this is

not just an issue in mathematics but it is certainly one we are very concerned about. I understand that in some cases the chief examiner is a co-author of the recommended textbook, which is hardly healthy for a competitive textbook market - or for students.

“With the exam boards having so much control over publishing, mathematics is becoming a pass-the-test subject,” he added. “Which means new students arrive at university without the understanding we would expect. Academic mathematicians must put effort into ensuring there are plenty of good textbooks available.”

Position Statement on Awarding Bodies and Teaching Resources

The IMA is concerned about developments in the market for textbooks and other teaching resources (*hereon, 'textbooks' should be construed as including other teaching resources*) for courses preparatory to public examinations which it believes to be detrimental to the public good. The practices have arisen of the endorsement of textbooks by awarding bodies and the publicising of authors being examiners.

- Many centres feel obliged to purchase textbooks which have been written by examiners and have been endorsed by awarding bodies in case they confer some advantage and to protect themselves from criticism for failing to have done so. Even for those centres wishing to use broader criteria in the choice of resources this restricts their choice as other publishers find they cannot achieve commercial viability and withdraw from the market.
- The versioning of textbooks to particular specifications fragments the market which makes it difficult for a variety of approaches, especially innovative ones, to be published. It also causes a culture to arise in which textbooks are considered obsolete when specifications change, with the consequent cost to centres of replacing stock.
- Examination specifications need to be self-contained and sufficiently detailed so that all are confident what is required and there should be no suspicion that dependence must be placed on *de facto* amplification provided by texts where a financial relationship exists between the awarding body and the publisher.
- Good examiners are not necessarily good writers of textbooks. Although there are exceptions, there is a tendency for the books to be very exam focused which is a further factor encouraging teaching to the test; those teachers who feel the most need for endorsed texts are those least likely to be confident to break free from the textbook.
- Endorsement is effectively acting as a restraint to trade rather than as a kite-marking system. Whilst innovative projects and pilots should quite properly be able to publish linked supporting material, and awarding bodies should be able to support innovative or small-entry examinations with booklists and free materials, anything from which awarding bodies gain commercial advantage should be prohibited as a condition of accreditation by the regulator.

For the maintenance of public confidence in standards there must be a clear separation, between teaching and learning and the public assessment thereof, which does not admit of any suspicion of conflict of interest. It is in the public interest that the resources published for use in our schools and colleges are supportive of good teaching and learning, and it is proper that the regulatory authorities should take steps to prevent practices not conducive to this.

*Schools and Further Education Committee
The Institute of Mathematics and its Applications*

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Notes for Editors

1. The **London Mathematical Society (LMS)** is the UK's learned society for mathematics. Founded in 1865 for the promotion and extension of mathematical knowledge, the Society is concerned with all branches of mathematics and its applications. It is an independent and self-financing charity, with a membership of over 2600 drawn from all parts of the UK and overseas. Its principal activities are the organisation of meetings and conferences, the publication of periodicals and books, the provision of financial support for mathematical activities, and the contribution to public debates on issues related to mathematics research and education. It works collaboratively with other mathematical bodies worldwide. It is the UK adhering body to the International Mathematical Union.

2. The **Institute of Mathematics and its Applications (IMA)** is the learned and professional society for mathematics. It promotes mathematics research, education and careers, and the use of mathematics in business, industry and commerce. Amongst its activities the IMA produces academic journals, organises conferences, and engages with government. Founded in 1964, the Institute has 5,000 members. Forty percent of members are employed in education (schools through to universities), and the other 60% work in commercial, industrial and governmental organisations. In 1990 the Institute was incorporated by Royal Charter and was subsequently granted the right to award Chartered Mathematician designation.

3. The LMS and IMA are members of the **Council for the Mathematical Sciences**, which also comprises the Royal Statistical Society, the Edinburgh Mathematical Society and the Operational Research Society.

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